

KAMARAJ COLLEGE (Autonomous)

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(Affiliated to Manonmaniam Sundaranar University, Tirunelveli)

(4 Pages)

Reg. No:.....

Question Code: 26E01208

Course Code : 24USPH31

UG Degree - End Semester Examinations, April 2026

Third Semester

B.Sc., Physics

C Programming

(For those who joined in July 2024 onwards)

Time : 3Hours

Maximum : 75 Marks

PART - A (10 × 1 = 10 Marks)

Answer ALL Questions

Choose the correct answer :

- CO:1 1. The smallest individual unit in a C program is called a:
K:1 (a) Command (b) Statement
(c) Token (d) Character
- CO:1 2. The ratio of dispersive powers of the materials of the two lenses
K:2 in contact for achromatism is equal to ____ of the focal length of the lenses.
(a) Single quotes (b) Double quotes
(c) Parenthesis (d) Square brackets
- CO:2 3. Which of the following is not an arithmetic operator
K:1 (a) + (b) %
(c) * (d) !=
- CO:2 4. Which of the following is an unformatted input function
K:2 (a) Printf () (b) Scanf ()
(c) Gets () (d) None
- CO:3 5. What is the output of the following C code snippet?
K:3

```
int x = 5;
if (x > 3)
    printf("Hello");
else
    printf("World");
```


(a) Hello (b) World
(c) Hello World (d) Compilation Error

- CO:3 6. What is the primary use of the break statement in a loop or
K:2 a switch statement?
(a) To skip the current iteration of the loop.
(b) To terminate the execution of the loop or switch block prematurely.
(c) To transfer control to the default case in a switch statement.
(d) To continue to the next statement after the loop.
- CO:4 7. Which function is used to move the file pointer to a specific
K:1 location in C?
(a) rewind() (b) fprintf()
(c) fseek() (d) ftell()
- CO:4 8. The process in which a function calls itself directly or indirectly
K:2 is called
(a) Continuous (b) Discrete
(c) Recursive (d) None
- CO:5 9. Which of the following statements is true regarding matrix
K:1 subtraction in C?
(a) Matrices of different orders can be subtracted.
(b) Subtraction is performed by subtracting each element of the first matrix from a constant value.
(c) Corresponding elements of two matrices of the same order are subtracted to form the result matrix.
(d) Matrix subtraction requires multiplying the elements before subtracting.
- CO:5 10. To multiply matrix A by B, the number of columns in A must
K:3 _____ the number of rows in B.
(a) Equal (b) Lesser than
(c) Higher than (d) Both (b) and (c)

PART - B (5 X 5 = 25 Marks)

Answer ALL Questions choosing either (a) or (b).

Answer should not exceed 250 words.

- CO:1 11. (a) Illustrate the character set of C language.

K:3

(OR)

- (b) Apply the rules of type conversion in C.

- CO:2 12. (a) Demonstrate the use of increment and decrement operators in C.

K:3

(OR)

- (b) Use printf() and scanf() functions to read a value from the user and display the result.

CO:3 13. (a) Explain simple if and if- else statement.

K:4

(OR)

- (b) Examine how switch and break statements work together in a C program with an example.

CO:4 14. (a) Explain function and the role of user-defined functions in a C program.

K:4

(OR)

- (b) Analyse the concept of recursion and illustrate it by writing a C program using a recursive function.

CO:5 15. (a) Assess the usefulness of one and two dimensional arrays in C with simple programs.

K:5

(OR)

- (b) Evaluate the steps involved in matrix addition using a C program with suitable explanation.

PART - C (5 X 8 = 40 Marks)

Answer ALL Questions choosing either (a) or (b).

Answer should not exceed 500 words.

CO:1 16. (a) Explain the different types of data types in C with examples.

K:3

(OR)

- (b) Illustrate the basic structure of a C program with a simple example.

CO:2 17. (a) Examine the various operators in C language.

K:4

(OR)

- (b) Explain data input and output functions in C

CO:3 18. (a) Analyse the use of break and continue statements in C programming with suitable examples.

K:4

(OR)

- (b) Examine the working of a C program that generates the Fibonacci series.

CO:4 19. (a) Justify the use of library functions in C programming with
K:5 appropriate syntax.

(OR)

(b) Evaluate the steps involved in generating the Sine series using a C program.

CO:5 20. (a) Construct a C program to implement matrix multiplication
K:6 and display the result.

(OR)

(b) Design and develop a C program to perform subtraction of two matrices.